A REMARKABLE CASE

—OF—

SUPPURATIVE OTITIS

WITH HEMIPLEGIA.

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[Read before the Spokane County Medical Society, June 21, 1894.]

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A REMARKABLE CASE OF SUPPURATIVE OTITIS, WITH HEMIPLEGIA.

By Dr. Arthur H. Coe, Spokane, Wash.

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Gentlemen: The case which I have to report to you this evening, presents so many points of interest, many of which seem contradictory and beyond explanation, that I trust we shall have a free discussion at the close, in order to arrive, if possible, at a definite conclusion as to the real conditions present.

On March 10, 1894, William Arnold, aged 25, a woodchopper from Heron, Mont., presented himself for treatment, with the following history: Some two months previous he had severe pain in the left ear for a week or ten days, followed by a free discharge, which continued for some days, then chills and high fever, with vomiting and great pain over the left side of the head. This condition gradually got better, and there was marked improvement in hearing, though the discharge still continued. No history of any nervous disorder, or of any specific disease.

On examination there was found to be quite a free purulent discharge from the middle ear, with granular tissue arising from the upper wall, and evidences that attic suppuration had continued for some time, and that pus had burrowed above the drum and broken into the canal.

Under treatment he began to improve as to diminution of discharge and increased hearing distance. About two weeks later, however, his appearance was not so good; he had daily elevation of temperature from one to two degrees, with more or less pain in the ear and side of the head, appetite poor and tongue coated. The discharge from the ear was still quite free.

He was taken into our hospital and three leeches were applied to the base of the tragus, bleeding being encouraged. Following this he felt much better, pain and fullness in the head decidedly improved. Two days later, however, the temperature rose to 102.5°, with increase of pain in the ear, and the discharge became less free. There was some tenderness over

the mastoid, and some slight redness running down the sterno-cleido-mastoid muscle. While the signs of mastoid involvement were not very marked, it was thought that pus must be present, and that his condition warranted an operation.

Under ether, I opened the mastoid antrum by the usual incision and Buck's trephine. The probe passed freely into all the cells, but no pus was found. The cavity was irrigated and packed with iodoform gauze. The next morning there was a free discharge of pus from the mastoid, which probable came from the middle ear, communication having been established. The condition of the patient, however, was better, the temperature declined to 100°, and the facial expression improved.

The progress of the case for four or five days was uneventful, when the temperature went up to 103.5° and the pain in the head and ear became severe. The discharge from the ear was still quite free. Next day the patient had a severe chill; the temperature rose to 105°, but there were no signs to indicate where the pus was retained. Dr. Essig kindly saw the case, and, while announcing it to be a typical septicæmic picture, was not able to determine the pus focus. He advised free irrigation of the ear with hot water, under pressure, and the administration of iron, quinine and whisky.

Some ten days later there was noticed a swelling of the neck along the sterno-cleido-mastoid muscle, with some tenderness. During all this time the patient had many severe chills, with a temperature often reaching 105° to 105.5°, accompanied by severe pain in the side of the head.

Our opinion was that pus had broken through the bone just inside of the insertion of the muscle to the mastoid process and had burrowed down the sheath of the muscle, or, possibly, had found an exit with the jugular vein, and was contained within the sheath of that vessel. Under cocaine, I made an incision along the anterior border of the sterno-cleido-mastoid muscle, and carefully separated and turned it back; but, outside of a swelling and indurated condition of the body of the muscle, nothing was found. The incision was closed and healed by first intention.

Patient took nourishment and stimulants well, and continued in about the same condition for some five days, when the swelling in the neck was decidedly more apparent and tender to the touch, and on several occasions it was thought fluctuation could be detected.

It was Dr. Brown's opinion, who saw the case, that pus was now undoubtedly present, and on his introducing an aspirating needle through the body of the muscle, the long sought for

fluid appeared, being contained between the inner border of the muscle and its sheath, and directly over the jugular vein. The pus cavity was opened by the Hilton-Roser method, i. e.: retaining the needle in place as a guide, a grooved director was insinuated along this, and, later, a pair of delicate dressing forceps which, being widely opened, gave vent to about two ounces of thick greenish-yellow pus. The opening was enlarged, irrigated, and a drainage tube inserted. Improvement was manifest at once by a fall of temperature and pulse, and relief from pain and tension.

The discharge of pus was very free for some days, when it gradually ceased and the cavity filled up. All the time this process was going on the discharge still continued from the external meatus.

A fair condition of the patient continued for a week or ten days, when it was noticed that the right leg was not moved as freely as the left, and this became more apparent from day to day. There then came on intense headache, confined to the left temporal and frontal regions, causing the patient to groan and cry aloud for hours at a time. No medication had any effect on this pain, the depression and vomiting caused by morphine being worse than its slight and transient anodyne effect. The temperature most of the time was normal, pulse 60 to 70 and full; there was a tendency to constipation; no delirium, and none at any time during the progress of the case, and no symptoms referable to the eyes.

The paralysis of the leg was now decided, and gradually involved the right arm and hand. At this time there was also hesitancy in speech and loss of memory as to words. Patient lay in a semi-stupor; at last paralysis of the facial muscles of the right side supervened. During the last few days of this period there was no complaint of pain, but soreness was present on striking the head over parietal bone.

The symptoms and course of the case for the succeeding ten days presented a classical picture of cerebral abscess, with the exception that, assuming the pus to have originated from the diseased condition in the temporal bone, the motor areas were involved in just a reverse order of the usual. For, if you will remember, the centers for face, arm and leg are situated in the temporo-sphenoidal convolution, on each side of the Rolando fissure, with the face center the lowest and nearest to the seat of trouble in this case, while the leg center, which first showed involvement, is the highest and at the upper curve of the cerebrum. Notwithstanding this contradiction, the majority of symptoms pointed so strongly to pus within the cranal cavity that it was

thought best to operate, with the hope of discovering and evacuating the pus. The point selected for the application of the trephine was in the so-called dangerous area of Barker, where nine out of ten abscesses originating from middle ear suppuration are located. This area is a circle with a radius of one and a quarter inches, situated one and a half inches above and behind the external meatus. Notwithstanding the fact that this point was somewhat posterior to the motor centers involved, their region could be easily reached by a probe, and the fact of the contradictory symptoms in the motor involvement, led us to think best not to go directly down on them.

The head having been shaved and rendered aseptic, the patient was anæsthetized with chloroform, but, the heart not acting kindly, ether was substituted, which was entirely satisfactory. In the presence of Drs. Brown, Libby, Hood, Catterson and Thomson, I made a horseshoe-shaped incision down to the skull, which was perforated with a three-quarter inch trephine, and a button of bone was removed. The dura, which was slightly congested, being exposed and opened by a crucial incision, a probe was passed between the dura and brain in all directions for some two or two and a half inches. Later, a thorough exploration was made inside the dura, but without result. The opening was carefully washed out with a boric acid solution, and, on account of slight venous oozing, was packed with iodoform gauze, and the incision closed and dressed.

He recovered from the anæsthetic nicely, there being, however, a slight internal strabismus during the balance of the day. The gauze was removed on the following morning, and union of the wound was primary, without a particle of swelling or redness.

The condition of the patient on the succeeding days was not encouraging; there was involuntary evacuation of the bowels, semi-stupor, great difficulty in talking, but no complaint of pain. He remained about the same for ten days or two weeks, there being complete loss of control of sphincters, and the patient was in a pitiable state.

About the eleventh or twelfth day after the operation his face was brighter, he had improved appetite, and his general condition was somewhat better; and in the succeeding three days his strides toward recovery were wonderful; the paralysis disappeared, the control of the bowels and bladder was regained, his appetite became ravenous, and he was soon up and walking about; since when he has gained in weight and strength, until now he is in his usual state of health, except a slight amount of facial paralysis, which still remains.

Examination shows the ear to be perfectly dry and in good condition, with hearing power very fair. At no time during the case was there vomiting which could be attributed to the disease; several times it was present, but always followed the exhibition of morphine.

Such, gentlemen, is a brief outline of a case which is remarkable for, notwithstanding the variety and number of operations, the very grave period of septic intoxication and the absolute cessation of the motor functions of the entire right side of the body and the sphincters, the patient was transferred in some three days from a condition of the most pitiable helplessness to one of comparative health.

The most interesting point for discussion is: what caused the pressure in the cranial cavity on the motor centers, and why were they involved in reverse order? It was not an abscess, for so thorough an exploration as was made, would have detected pus if present, and, again, the improvement could not have been so marked and rapid, unless the abscess was evacuated; and, lastly, the pus could not readily have formed so high up as to involve the leg center first, and then work downward. My opinion is, that the constant irritation of the diseased process on that side of the head set up a localized meningitis with congestion and transient thickening of the membranes sufficient to cause pressure on the motor centers, and that the subsidence of this relieved the pressure, and, the centers not being seriously involved, they rapidly recovered their natural condition.

At several different times we fully expected to have a very interesting post-mortem specimen to exhibit to you, but, in spite of all our operative efforts, it escaped us, and you have simply a word picture of the case.

Addendum.—This case, after remaining away about two months, during which he was in fair health and worked at his occupation of woodchopper, returned with intense pain in the head, loss of appetite and strength.

There was very little remaining facial paralysis and the ear was perfectly dry. His condition grew progressively worse, pain, stupor followed by coma, with unequal dilatation of the pupils, and finally death, with all the symptoms of brain compression.

I performed an autopsy the day following, the examination being confined to the cranial contents.

The dura was normal except over the motor areas on the left side, where it was closely adherent, being detached with diffi-

culty; it was greatly thickened and there was considerable inflammatory deposit of a fibrous nature on the cortex.

The area of the adhesion and thickening corresponded exactly to the motor areas of face, arm and leg.

On section of the left hemisphere an abscess was found occupying the lower and central portion of the frontal lobe. It consisted of two distinct sacs, the larger the size of a hen's egg, having walls of considerable thickness. The smaller sac gave evidence of more recent formation, by its thinner and less organized walls. The cerebral tissues were softened even for some distance from the sac and broke down readily.

It is my opinion that the conjecture made in the first place as to the paralysis being caused by the local thickening of the meninges was correct and that the abscess had nothing to do with the paralysis, for on his return there were no symptoms of paralysis, and the abscess was not only there, but probably larger and in a more active state. I do not mean to imply that there was no connection between the meningitis and the abscess, but that the pressure causing the involvement of the motor centers was occasioned by the meningitis.

This case affords a beautiful example as to the liability of error if one does not follow the indications pointed out by the localization symptoms.

It is very probable that on account of the deep location of the abscess, we would not have discovered it even if the trephining had been done over the areas involved. In fact, on discovering the localized meningitis and thickening which were present, it is doubtful if we could have explored at all for an abscess. Nevertheless, the motor symptoms are now so well made out that we should be impressed with the fact that their indications should never be disregarded.